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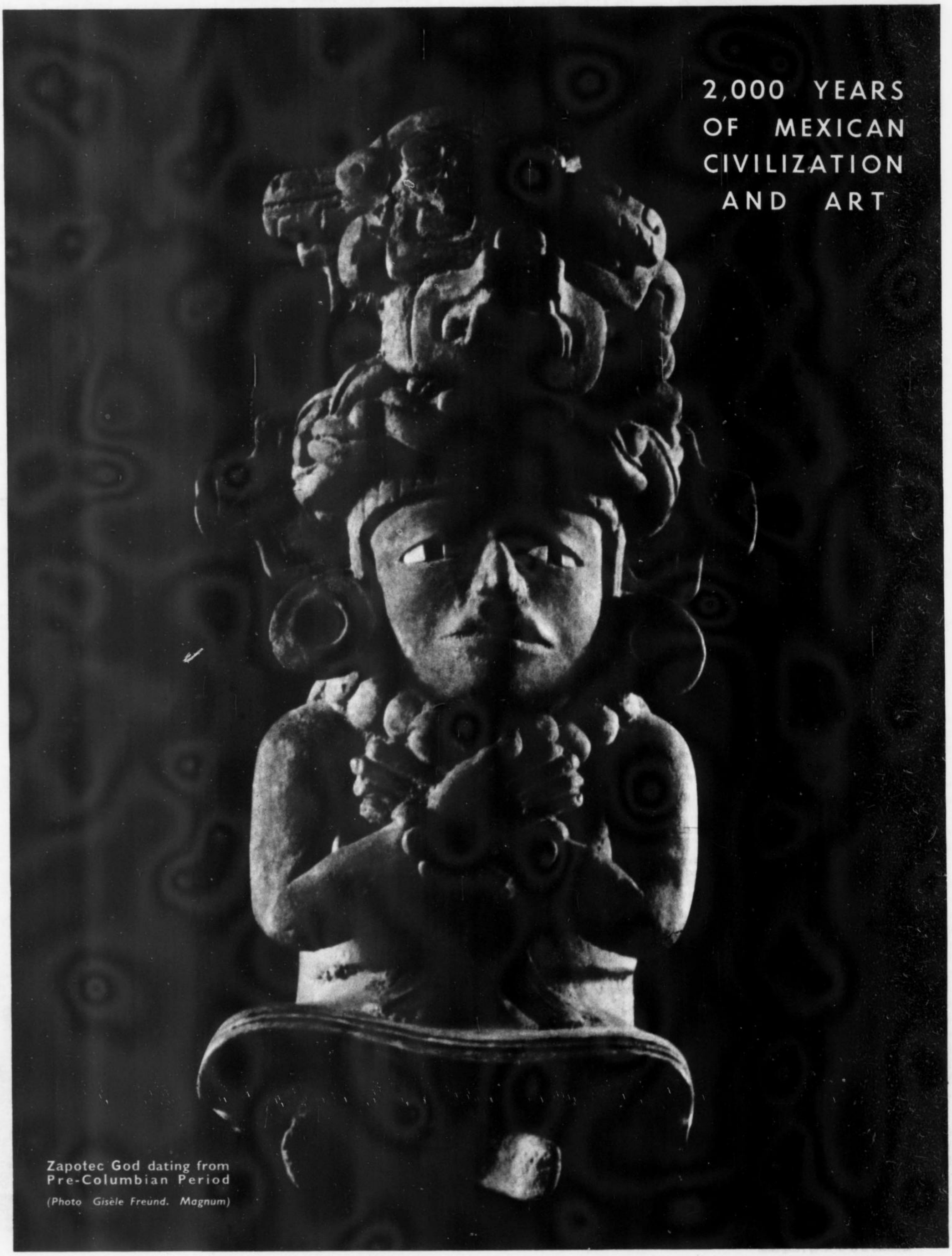
2,000 YEARS OF MEXICAN CIVILIZATION AND ART



Zapotec God dating from Pre-Columbian Period

(Photo Gisèle Freund. Magnum)

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EDITORS { English edition : R. S. FENTON
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OUR WORLD OF SCIENCE

By Dr. Gerald WENDT

THE REQUIREMENTS FOR ETERNAL LIFE

IMMORTALITY of the spirit has been the hope or the faith of mankind since the beginning of time. But an everlasting life for the physical body of flesh and blood has always seemed hopeless. Recent biological research, however, has advanced toward that goal. Whole organs of animals are being kept alive in glass tubes for long periods of time and in Chicago, U.S.A., Dr. Ralph W. Gerard has been studying the living spinal cord of a laboratory rat, kept in a glass vessel like a goldfish. Gradually the conditions for the continued maintenance of life are becoming known.

To keep an organ alive indefinitely, long after its removal from the body of the animal, requires full and precise knowledge of what that organ needs for its nutrition. It must be supplied with energy in the form of sugars, with oxygen to permit it to use or "burn" the sugar, and with a complex mixture of other substances that are needed for the life process. The nutrient solution in which it is immersed must in effect do all that the blood does in the animal.

It is just as important also to remove the products of life, the waste materials which are formed in the process of living. If these are steadily removed and uniform correct nutrition is supplied, the organ can remain as healthy and active as it was in the animal. In fact, it can live longer than the animal could because in an animal the composition of the blood changes with age. It deteriorates and finally fails to maintain the health of one or more organs so that death results. But in the laboratory it is possible to maintain perfect and changeless conditions and thus to prolong life indefinitely. This has been done for individual muscles and organs but it is still impossible to do it for whole live animals. True immortality is still far off.

Dr. Gerard's results have not yet been fully published but his purpose in studying the life of the spinal cord are important. He could vary the amount of oxygen supplied, for instance, and thus have direct evidence on what happens to the nervous system if oxygen is insufficient. Such a direct study of the role of oxygen in the life of the nerves and of the brain should be of enormous value to aviators who fly high in the sky where the air is thin and oxygen is deficient. Direct study of the action of alcohol and of drugs on the nervous system has also become possible.

The method of keeping organs alive is now called perfusion and is being used in many laboratories of physiology. At the Worcester (USA) Foundation for Experimental Biology the adrenal glands of calves have been kept alive for long periods and have been used to manufacture cortisone, the new drug that gives almost complete relief from the crippling effect of arthritis. A battery of living animal glands, under perfusion, would be a new type of biochemical factory.

In the case of muscle, very long extension of life is possible. Dr. Alexis Carrel, the distinguished French surgeon, who spent all his active life in researches at the Rockefeller Institute for Medical Research in New York and won the Nobel Prize in Medicine, kept a piece of heart muscle from a chicken embryo alive for 23 years. He reported in his famous book *Man the Unknown*, that "Colonies" (of muscle cells), obtained from a heart fragment, removed in January 1912 from a chick embryo, are growing as actively today as 23 years ago. In fact, they are immortal.

It is true that a life of 23 years is not immortality. But it is a long life for a piece of chicken. Dr. Carrel was quite confident that if the conditions under which the muscle remained alive were kept absolutely changeless, then the muscle would remain alive and would continue to grow for ever.

It was surprising enough when Alexis Carrel kept a few muscle cells alive, but these recent researches indicate that much more lies ahead. The ancient "secret of life" is not as mysterious at it was. Life goes on if its environment is favorable, for cells, for muscles and for organs. In the living animal the blood and other body liquids provide such an environment until the chemistry of the body fails with age. But if ageing can be prevented in the laboratory there is hope that the process of ageing in the body can also be explored, understood and prevented. Eventually, though not in this century, if all the parts of the body stay young, the entire body stays young too and immortality is at least conceivable. It is a word used by Alexis Carrel fifteen years ago.

In this issue we begin a regular column on Our World of Science by Dr. Gerald Wendt, formerly professor of chemistry at the University of Chicago and Dean of chemistry and physics at the Pennsylvania State College in the United States. In recent years he has devoted himself to public education in science, first as director of science and education at the World's Fair in New York in 1939, then as science editor of Time and Life and finally as editorial director of Science Illustrated. His published books include Science for the World of Tomorrow, The Atom Age Opens, and Atomic Energy and the Hydrogen Bomb. His first article for the COURIER appeared in the February 1952 issue ; it was entitled "The Miracle on 57th Street". Dr. Wendt is the newly appointed head of the Division of Teaching and Dissemination of Science in Unesco's Natural Sciences Department.

FROM THE UNESCO NEWSROOM

SWITZERLAND: The Pestalozzi Children's Village in Trogen has just inaugurated its Community House which was built with funds raised by the Canadian Unesco Council for Reconstruction, by the canton of Zurich and by a private firm in the city of Vevey. The new house will be opened to children of all nationalities and religions who will play and work together towards brotherly relationship among all nations. During the coming summer holidays, educationists and young people from all countries will be able to visit the Pestalozzi Community House, where they will have a chance to exchange ideas and experience.

UNESCO: Machinery for planning an international laboratory and for organizing other forms of co-operation in nuclear research in Europe has been established as a result of a meeting at Unesco House. A Council of Representatives of European States has appointed a secretary and heads of key study groups for this purpose. And it agreed on plans for a conference of nuclear physicists to meet in Copenhagen this month. (Members of the Council, which has its headquarters in Geneva, are: Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Sweden, Switzerland and Yugoslavia.)

INDIA: An Association of Indian Science writers has been formed, following the initiative of the Indian Science News Association and with the co-operation of Unesco. The purpose of the Association is to satisfy the growing interest of the Indian people in the achievements both of Indian and other scientists, and to provide full and accurate information about international scientific co-operation.

EGYPT : Egyptian and Unesco officials have signed an agreement for the establishment this year of a second fundamental education centre. Site of this experiment in co-operation to raise living standards and combat ignorance will be Sirs El Layan, some sixty miles north of Cairo. It will open in autumn with some fifty students drawn from Middle Eastern countries. Enrolment soon will be raised to two hundred. The first fundamental education centre was opened last year in Mexico and Unesco intends to set up eventually a world network of these centres to fight ignorance, poverty and ill-health through education.

FRANCE: An imposing ceremony took place recently at Grenoble, with the participation of France's top educational authorities and a representative of Unesco's Director-General, Jaime Torres Bodet. The occasion was the solemn endorsement by the city's municipal council of the Universal Declaration of Human Rights. A commemorating plate was nailed on the gate of Grenoble's city hall. It was in Grenoble that the French Declaration of the Rights of Man was adopted and proclaimed in 1789. It is one of the three European university centres chosen to evaluate people's reactions to the Universal Declaration, the other two being Cambridge, in Great Britain, and Uppsala, in Sweden.

U.S.A.: The Library of Congress is co-operating whole-heartedly with Unesco's Book Coupon Programme. The Library has paid for more than ten thousand dollars worth of books from overseas with these Book Coupons, which are a kind of international currency primarily designed to aid book buyers in soft currency countries. By purchasing the Unesco Book Coupons with dollars, the Library of Congress helps increase the amount of hard-currency available for the functioning of the plan.

INTERNATIONAL: Librarians all the world over are becoming better neighbours. Most of them have large collections of extra and unneeded books and reviews, which may be urgently needed by readers elsewhere. Until recently, however, there was no way to know which books were needed, where they were needed or how to send them. Now, a vast network of exchanges has been developed which knows no frontiers, customs barriers or currency difficulties. Unesco's Libraries Division, which plays a central role in the scheme, is dealing with a larger number of requests and offers than ever before, as well as encouraging direct contacts and exchanges. Thus 134 scientific publications offered by the Virginia Polytechnic Institute have been distributed among 46 libraries, from Turkey to Chili, from Poland to Burma, from Sweden to China. The Austrian National Library offered 179 works on history and literature, and among those who benefitted were the University of Hiroshima, the Vieux-Condé district in the north of France, the Olomouc University in Czechoslovakia, and a number of Indian libraries. When the British Book Centre offered 337 works on education and social sciences, Unesco enabled 45 libraries to profit from them in Europe, Asia, Africa and America. Distribution and exchanges extend to every country, whether it is a member of Unesco or not. For hundreds of libraries, the ideal of international collaboration has become an everyday reality.

DENMARK: Thirty Danish bus conductors, in Paris to study transport organization and make the acquaintance of their French colleages, were received recently at Unesco House by Director-General Torres Bodet. He stressed the knowledge which 800 European workers who are granted Unesco fellowships this year, would undoubtedly derive from their visits abroad, and also the value to them of their meetings with their colleagues of different nationalities. The Danish workers are the first beneficiaries of the group travelling fellowships which Unesco is granting workers and civil servants of thirteen different nationalities, who desire to establish contact with workers in other countries.

INTERNATIONAL : The opportunities for international study and cultural travel during the summer vacation of 1952 will be unusually great and varied. In order to make them more widely known, Unesco has just published a "Vacation Study Supplement" to Volume Four of its annual survey "Study Abroad". This international handbook of fellowships, scholarships and educational exchange can be bought through Unesco distributors around the world. The supplement lists hundreds of general and specialized study courses offered in thirty different countries as well as seminars, study tours, camps and youth centres.

2,000 YEARS OF MEXICAN ART

by Jean Cassou

Curator, Musée National d'Art Moderne, Paris

An exhibition on Mexican art, of exceptionally wide scope opened last month at the Paris Museum of Modern Art. Its aim is not merely to offer connoisseurs a chance to admire Mexican paintings, statues or rare art objects. It is far more than that, for it reveals a great civilization which is really understood only by a relative minority of travellers and specialists. What the exhibition offers us is an opportunity to comprehend the people of Mexico, not from the outside in the political or ethnological sense but deeply and profoundly by tracing their spiritual and aesthetic development. On this occasion, too, the Mexican Government has placed at the disposal of European radio stations collections of recordings of its authentic folk music and its modern symphonic music. This great cultural event, then, goes far beyond the scope of the ordinary art exhibition. The COURIER is devoting these pages to the Mexican exhibition of art not merely because of the value of the great works shown, but even more important, because of the unusual opportunity it offers for a better and richer understanding between peoples. The article by M. Jean Cassou, published below, is presented in this same spirit — not as an account of the exhibition itself but as an attempt to explain the fundamental continuity of Mexican culture expressed through the arts.

WHAT an awesome, startling experience it must be to discover a new world of undreamed-of expanse and with an even more undreamed-of past. Can we who have never had this experience, ever hope to imagine the profound agitation and emotion that must have gripped the Spanish Conquistadores when they beheld for the first time the vast new continent of America and became aware of the long, long ages of its history? They had the revelation of a whole universe in time and space; a universe hermetically sealed, totally strange and with an utterly distinct unity of its own which was to persist down to our own time. Every element from the outside was to be assimilated and absorbed so that this unity remained unshakeably whole. Today, there exists a phenomenon we can call Mexican, a world that is purely Mexican. The exhibition of Mexican art which opened last month at the Musée National d'Art Moderne in Paris, following an agreement between the Mexican and French Governments, bears witness to this enduring phenomenon which is Mexico and to its fundamental continuity.

When the Conquistadores, or *Teules* (Lords) as they were called, set foot in the new world, there was revealed to them a huge continent stretching out to the other Sea beyond, and an uninterrupted span of empires and monuments with their epic sequences of gods, laws and customs. The newcomers, however, had their epic dreams, too, and incredible good fortune was to make these come true. That which they had so passionately dreamed in their hours of idleness, when the minds of all of them were filled with the fabulous fancies of their early childhood, they now were actually living. They were living a romance of chivalry, each of them Amadis of Gaul himself, the knight-errant mounted on his charger, each of them a Knight of the Wheel or a Knight of the Cross.

Many centuries separate the pre-Columbian terracotta figurine of an old ' Hunchback ' (upper right) from the ' Head of a Woman ' (lower left) by the contemporary Mexican artist, Julio Castellanos, who is relatively little known outside his country. The two works, seen together, convey something of the essential continuity of Mexican art through the ages.

For with them, when they landed, they brought the material and spiritual things of the world they knew, their myths and established beliefs, their arms, their animals and their technical skills. They appeared at a time when their world had reached new heights of power and entered a new era of global politics and aspirations. Indeed, a brilliant panoply of strength and a solidly organized machine supported the dreams which dazzled their imagination.

And so, the Conquistadores pitted their myths and their fantasies against the fables of the unknown world, and from the vast, confused battle which ensued, new dreams were to emerge, new ideas and new forms no less remarkable than the old.

One thing, however, was always to remain, potent and indestructible as ever — the original spark of Indian genius. In fact, before the coming of Cortes, the native genius of Mexico had expressed itself with such powerful intensity and vigour that it is not surprising that its burning, all-consuming force has persisted down through the ages. Scholars who work constantly with the comparative method, as well as the man-in-the-street who automatically draws parallels with the things familiar to him, may find similarities between certain forms of art of the pre-Columbian period and those of ancient Egypt, the old Mediterranean civilizations or the Far East.

And yet, when we consider the treasures unearthed in the temples of Chichen-Itza or Monte-Alban, we cannot evade the thought that here is something underived, inalienably original and whole; here, indeed, is an art form of astounding beauty, which if it must

(Continued on next page.)

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A SYNTHESIS OF TWO GREAT CIVILIZATIONS

(Continued from previous page.)

be placed alongside the highest art forms of other great civilizations of the past, it is only because, like them, it is matchless and reaches the sublime.

If, then, we are truly to understand the phenomenon of Mexico, it is above all towards its originality and vigour that we must look. Mexico and Peru were parts of the continent occupied by the Indians where the White man found a great civilization. In Mexico, the Indian civilization had attained a remarkable degree of advancement; in fact, it was so advanced that it had reached the ledge of arrested growth and was beginning to decline and disintegrate. Despite the desperate stand af Cuauhtemoc, the last of the Aztec emperors, and the heroic battles which for a short time drove the conquerors out of the city of Mexico, there was a sad fatalism in the way the Aztec Empire accepted its fall and saw its fate as the fulfilment of ancient prophecies. This was aided by the rebellion of the Indian tribes subdued by the Aztecs and the help many of them gave to the invaders to hasten the collapse.

But perhaps this fatalism and melancholy are parts of the very genius of Mexico, and a permanent element which humanizes its frightful cruelty. The love of flowers and of other short-lived things which the song-poems of King Netzahualcoyotl evoke so movingly; the meditative spirit: a minute and infinite patience — all of these are traits of the Mexican soul. In their buildings and sculpture one feels the weight of a massive, melancholy despondency. The implacable geometrical forms, the square-cut jaws, the uncompromising decorative motifs, the whole Cyclopean weight of Mexican monuments speaks of a gravity of mind inclined towards macabre, unfathomed mysteries. There is in this spirit and style alike a power that expresses the concentration or a tight closed core, a power primarily hermetic, coiled like that of the symbolic serpent whose expansion can only be slow and terrible.

The Indian genius, with its patient impassive features, its opaqueness, its irony, and its aggressiveness, which might be called a combination of mineral matter and wild beast, was to find a note of harmony in certain rhythms of the Spanish spirit. Above all, the distinct fascination death had for both, the sarcastic reflections each made on death, were to come together here. Two peoples were to intermingle, both of noble stock, both endowed with the highest genius, both accustomed — and this is truly exceptional in the history of human philosophy — to regarding death as a *sport*. This single encounter was to make possible a new Mexico, rich in new and amazing spiritual possibilities.

The humanism of the Iberian peninsula, which extends over a considerable part of the globe, is the result of such encounters. Varied factors, each carried to the maximum degree of intensity, have contributed to its paramount originality. The aspects it assumed in Mexico are no less striking, particularly in the case of Colonial Baroque art. This style, already sufficiently intoxicating and intoxicated, was carried by Mexico's tropical passion to an unparalleled degree of richness and exuberance. For the miracles introduced by the Whites were permeated by the terrifying prestige of the old gods which had not been forgotten. This survives even up to today. In the same way, the keen subtle spirit of the Indian survives in Mexican speech with its soft sibilant inflexions and its rhetoric even more ingenious and persuasive than Castilian Spanish.

Just as the Mexican genius surpassed Baroque in the field of art, so it surpassed Conceptism (1) in poetry. Sor Juana Inès de la Cruz, author of the *First Dream* — the admirable lyric description of an adventure into the mind — was undoubtedly the greatest of Gongora's successors and his equal as a poet and thinker.

The countries of Spanish America, which were all former provinces of Spain, have still retained a provincial air that is at once touching, old-fashioned and quaintly picturesque. Yet beneath these 18th and 19th century provincial ways the keen observer can distinguish the differences between Chile and Argentina or Bolivia. As for Mexico, its mark of individuality is easily recognized. And perhaps it is not one of the lesser thrills of the Paris exhibition on Mexican art that visitors will be able to discover for themselves the charm of some of the religious pictures or portraits of the Colonial period which reveal certain ingenuous qualities, it is true. but which nevertheless are so very delicate and elegant and almost clever. In fact, as far as the people of Mexico are concerned, we can always believe and appreciate their ingenuousness. For their native, unadulterated qualities are their guides in art, and popular inspiration, for them, is always right. Technique and skill are only derivatives of such native sources and have neither been learned nor acquired from outside.

If we wish really to understand Mexican civilization, be it under the domination of the Aztec Emperors or that of the Castilian Viceroys, or since Mexico became a sovereign state and nation, we must always turn to the people, that is turn back to the original native population which must always serve as our background. Wherever influences have combined and intermingled in Mexican history, we can always find the spontaneous initiative of the people colouring and guiding them. That is why the works of modern Mexican art which are most likely to please us are those we call "primitive" or "naïve". But all modern Mexican art is naïve and primitive. This is, in fact, the highest compliment we can pay it. It appears to us something like an explosion of the primitive, naïve spirit and of the crude essence of the people. So it expressed itself in the Revolution of 1910, the second emancipation of the Mexican people after their first struggle for Independance. From then on, the Mexican genius in art developed freely and completely on its own.

Once freed of their fetters and complexities, all the elements of this art, which had been confirmed in the course of Mexico's long history, asserted themselves as one single hermetic force of expression. These elements should be recognized and accepted as they are, without our expecting them to conform to our own familiar standards since modern Mexican art can be judged only against Mexican art as a whole. The one element in it we should look for is the inherent strength which derives from the Indian civilizations such as the Zapotec and the Mayan and we should desist from comparing its innovations and styles with modern European art.

Mexican art is the expression of its people; it describes, defines and portrays them in a natural easy manner since it is essentially popular. The large frescoes of José Clemente Orozco, Diego Rivera and Alfaro Siqueiros are not works produced for an aristocratic court or on official commission even though they were completed with the help of government funds. They are products of the people focussed on themselves and fixing their actions in image.

In these mural paintings, the people have found their own style, true to those they have used fer centuries and expressing what they want to say with perfect artistic dignity. They tell of their past, of all their struggles and adventures and vicissitudes, of their sufferings, their work and their wars, of all their hopes and their passions.

All this is of especial interest to us today since modern art is in search of new applications to architecture and monuments and hence as a service to the community. During the past 50 years new ideas have been developed in the plastic arts and these, as more and more persons everywhere are urging — need to be applied and adapted to mural painting. The example set by Mexican fresco painters, therefore, deserves our serious consideration. The success of this medium is undoubtedly due to two vital factors : first, Mexican art for the past 2000 years, has been profoundly and essentially of the people; second, Mexico has had a remarkable history as a nation which has given its art many inspiring themes. Of course, every people has its history and expresses itself through its art. But all art, however evolved and scholarly it may seem to us, has a basic element which stems directly from the people.

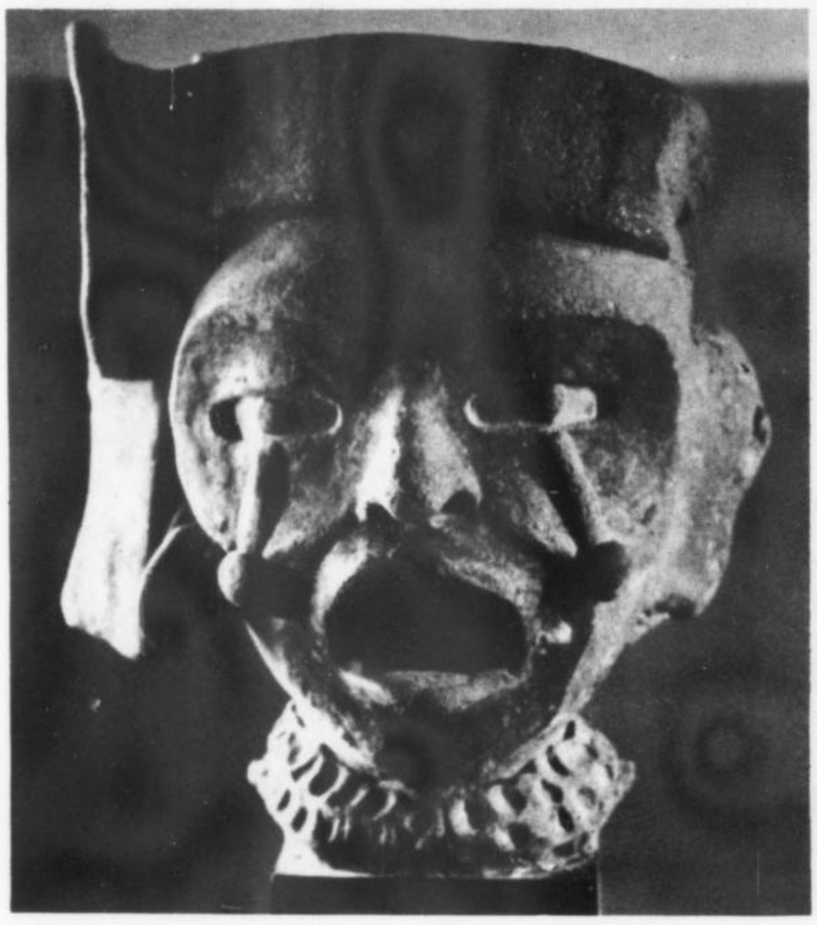
This basic element is clearly seen in a painter like Rufino Tamayo whose name is always linked with those of the three famous fresco painters of Mexico. Although he has done less mural work than they, he is nonetheless one of the foremost representatives of contemporary Mexican expression. The is something poetically savage, mysterious and totally strange in all his works.

One fundamental thing stands out above everything else in Mexican art. I have said this before and repeat it because one is constantly brought back to it : the high degree of popular inspiration which is so particularly rich and dynamic in Mexico's art. Add to this the passionate temperament of the Mexicans, reflected in the dramatic history which they have lived and forged by themselves. As a people, the Mexicans are intensely individual. Their individuality has persisted through the strangest vicissitudes and even because of them. We can see it, unchanged, in the civilizations which preceded the White man and in those where he was present. We can see it alike in the ancient gods and in the Christian images, in the frescoes which express the collective spirit and in the easel paintings that voice a personal sensibility. We can see it in the masterpieces of art and in the cheap products of traditional crafts. The singularity does not change. It is not contaminated; nor is it weakened or diminished. It persists like an undying flame, a force of gravity, an everbeating heart.

(1) *Conceptism was an offshoot, of Gongorism, a Spanish literary style of the 16th century which had a strong influence on Mexican literature of the 17th century. It was to literature what Baroque was to architecture, marked by complicated, abstruse images. Sor Inès Juana de la Cruz, a Mexican nun, is considered the greatest literary figure of Spanish-American colonial times, Her work is extremely subtle and abstract in thought though not in language.*

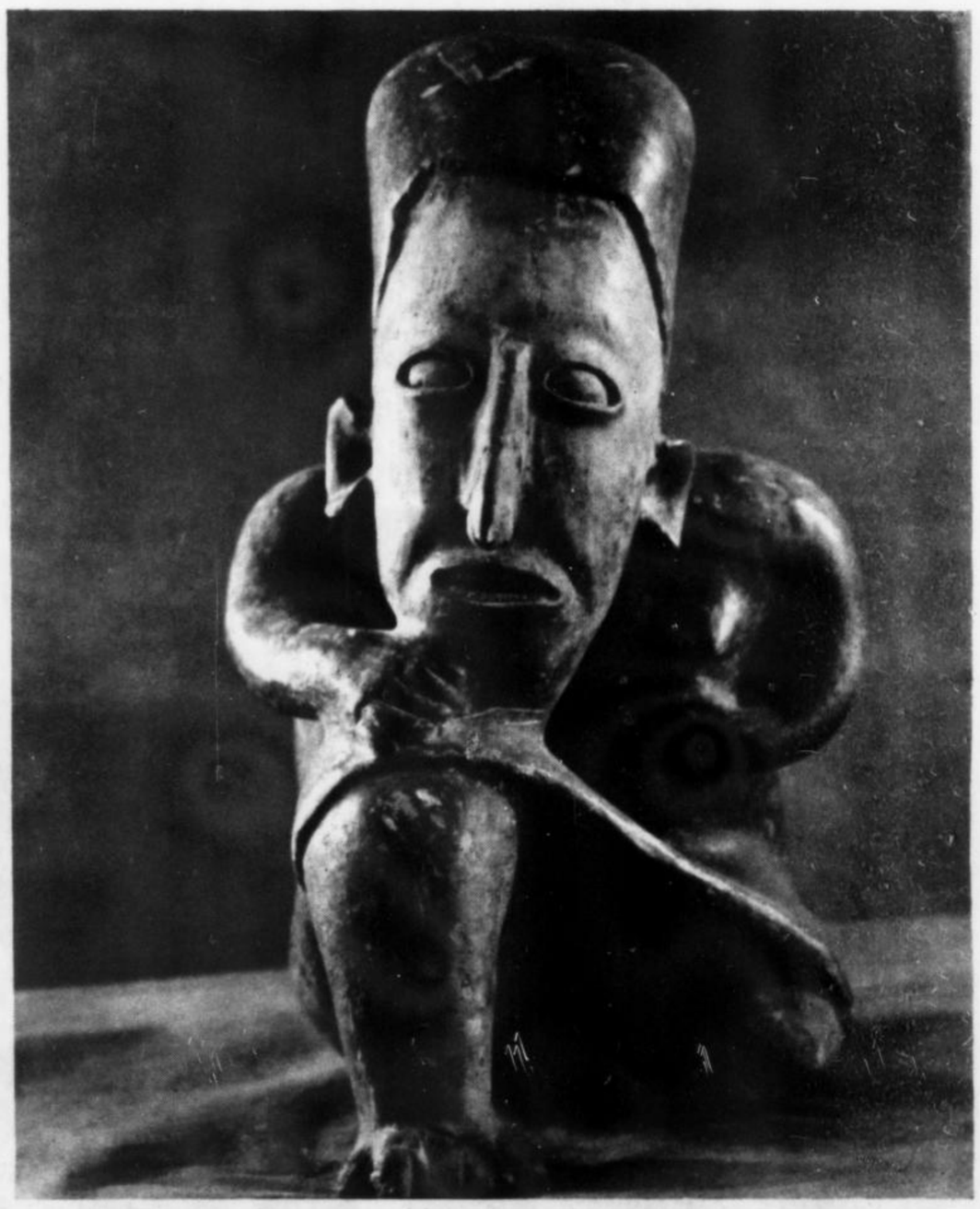
All photos on Mexican art in this issue were chosen with the kind collaboration of Dr. Fernando Gamboa, of the Instituto Nacional de Bellas Artes, Mexico, organizing director of the Paris exhibition. Photo, above, is a huge Mayan disc showing a *pelota* (ball) player. Around edge is a calendar in hieroglyphics.

'SMILING MASK' Pre-Columbian Totonac Indian mask discovered in the Vera Cruz area of the Gulf of Mexico.



'EYES WITH TEARS' Pre-Columbian Huastec Indian head discovered in the Vera Cruz area of the Gulf of Mexico.

COATLICUE is the greatest monumental work of sculpture of Aztec art. It is the goddess of the earth, representing the abstract ideas of death (destruction) and life (generation). The head is formed by the jaws of two serpents ; the feet by the claws of a bird ; the torso by skulls and severed hands and hearts. It is considered one of the most extraordinary works of mythical-magic surrealism.



TARASCAN ART. Unlike the art of the great Aztec, Mayan, Zapotec and Toltec civilizations which are essentially religious, the pre-Columbian art of the Tarascan Indians of west Mexico (now the State of Michoacan, site of Unesco's fundamental education centre) is entirely non-religious. Their ceramics show ordinary men and women, dancers, warriors (photo, left), nursing mothers, kneeling women (photo, right), scenes of love, fruits, animals, and plants. It is a delightful, imaginative art, filled with gaiety and the joy of true artistic creation. *(Photos Gisele Freund-Magnum)*

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BAROQUE AND FOLK ART

The Baroque style which reached a peak of development in the 18th century was carried to the New World from Spain where its fanciful and profusely ornamented interpretation by the architect José de Churriguera had given rise to the name ' Churriguresque '. It quickly became an idiom of wide currency in Mexico and all Spanish America. In Mexico, a particular richness resulted (sometimes referred to as ' ultra-baroque ') from the fusion of churriguresque with the native Indian taste for exuberance of heavy detail. This is seen, for example, in the statues, ornaments and jewelry of the ancient Mayas and Aztecs. Today, Colonial Baroque art can be found almost everywhere in Mexico. One of the masterpieces of this style is the Sanctuary of Ocotlan in the State of Tlaxcala (top photo). The church of Saint Mary Tonantzintla (detail in centre photo) in the State of Puebla, is another. Even in Mexico's contemporary folk art, which is so rich, varied and imaginative, the mark of Baroque is still frequently evident (bottom photo of present day terracotta folk representation of ' Adam and Eve ' shows this influence).

'BONAMPAK' – THE PAINTED WALL

Mural paintings have played an important part in the artistic expression of Mexico since pre-Columbian times. Only four years ago, new Mayan ruins were discovered in the jungles of the State of Chiapas. The Indians called these ' Bonampak ' or the ' painted wall ' because the walls of the temples were covered with frescoes. A fragment of one of these is shown below. Above, part of huge contemporary mural, telling history of Mexico, painted by Diego Rivera in the Palacio Nacional, Mexico City.

THE TWENTIETH CENTURY

'Animals'. Oil by Rufino Tamayo. 'There is something poetically savage, mysterious and totally strange in all his work'

'La Toilette' by Jesus Guerrero Galvan.

'The Demented Virgins' by José Chavez Morado.

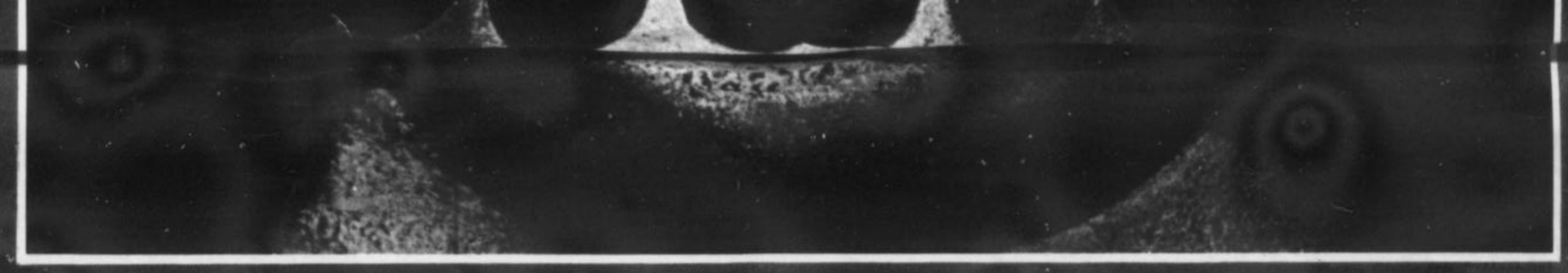
'Childbirth' by Manuel Rodriguez Lozan.

'Tata Jesucristo' by Francisco Goitia.

MODERN MEXICAN ART: 'AN EXPLOSION OF THE PRIMITIVE ESSENCE OF THE PEOPLE'

'The Master Singers'. Oil by Rufino Tamayo.

'The Apocalypse'. Mural by José Clemente Orozco. (1886-1949).



'Our Image' by Alfaro Siqueiros. 'Mexican genius is like a combination of inanimate matter and wild beast.'

'Women Soldiers'. Oil by Orozco. 'Mexico's art tells of its past, its struggles, its work, its wars, its hopes and passions.'

'Self-Portrait' by Alfaro Siqueiros.

'Flower Vendor'. Oil by Diego Rivera.

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THE WEST HAS MUCH TO LEARN FROM ASIA

by Claude Lévi-Strauss

Professor at the Ecole des Hautes Etudes, Paris.

IF there is one notion that a European seeking to understand the problem of South Asia must banish from his mind, it is that of the "exotic". Contrary to what so many suggestions in literature and travellers' experiences may imply, the civilizations of the East are, in essence, no different from those of the West.

Let us take a look at the bare remains that the passage of the centuries, sand, floods, saltpetre, rot and the Aryan invasions have left of the oldest culture of the East—the sites in the Indus valley, Mohenjodaro, Harappa, 4,000 to 5,000 years old. What a disconcerting experience! Streets straight as a bowstring, intersecting each other at right angles; workers' quarters with houses of dreary, unvarying design; industrial workshops for the milling of flour, the casting and chasing of metals, or the "mass-production" of those cheap goblets whose remains still litter the ground; municipal granaries occupying (to use a modern term) several "blocks"; public baths, drains and sewers; residential quarters providing comfortable yet graceless homes designed more for a whole society that lived in comfort than for a minority of the well-to-do and powerful—all this can hardly fail to suggest to the visitor the glamour and blemishes of a great modern city, even in their most advanced form as Western civilization knows it, and as presented to Europe today, as a model, by the United States of America.

One would imagine that, over four or five thousand years of history, the wheel had come full circle—that the urban, industrial, lower middle-class civilization of the towns of the Indus valley was not so basically different (except of course as regards size) from that which was destined, after its long European incubation, to reach full development only on the other side of the Atlantic.

Thus, even in their earliest days, the most ancient civilizations of the Old World were giving the New World its lineaments. Admittedly, this twilight of an ancient history of uniform design marked the dawn of other, heterogeneous histories. But the divergence was never more than occasional.

From the days of pre-history down to those of modern times, East and West have constantly striven to re-establish that unity which diverging lines of development have undermined. But even when they seemed to diverge, the systematic nature of their opposition — the placing at each extreme, geographically and one might say even morally, of the most ancient and the most recent scene, India on the one hand, America on the other — would supply additional proof, if such proof were necessary, of the solidarity of the whole.

Two conflicting theories

BETWEEN these two extremes. Europe occupies an intermediate position, a modest position, no doubt, but one she strives to make worthy by criticizing what she regards as excesses in the two extremes — the paramount attachment, in America, to things material, and the exaggerated concentration, in the East, on things spiritual: wealth on the one hand, poverty on the other, situations with which it is attempted to deal by two conflicting economic theories involving, as an article of faith, "spending" in the one case and "saving" in the other.

When, having spent long years in both the Americas, the writer last year received, from a Keeper of Bengali manuscripts, his first lesson in Asiatic philosophy, he might have been enticed into an over-simplified thesis. The picture was this: against the Amazon region of America, a poor and tropical but under-populated area (the latter factor partly compensating for the former), was set South Asia, again a poor and tropical, but this time over-populated area (the second factor aggravating the first), in the same way that, of the regions with temperate climates, North America, with vast resources and a relatively small population, was a counterpart of Europe, with comparatively small resources but a large population.

When, however, the picture was shifted from the economic to the moral and psychological plane, these contrasts became more complex. For nothing seemed further from the American pattern than the style of life of this sage, whose pride lay in walking barefoot and having, as his sole earthly possessions, three cotton tunics which he washed and mended himself, and who thought he had solved the social problem by cooking his food on a fire of dead leaves, collected and ground up with his own hands.

The 'reverse side'

WHEN one flies over vast territories of South Asia, from Karachi to Saigon, and once the desert of Thar has been crossed, this land, divided up into the smallest plots and cultivated up to the last acre, at first sight seems somewhat familiar to the European. When it is looked at more closely, however, a difference emerges. These faded, washed-out shades of pink and green, this irregular formation of fields and rice-paddies constantly appearing in different designs, these boundaries, blurred as if in patchwork — the whole carpet, so to speak, is the same; but, because form and colour are less clear, less well-defined than in the landscapes of Europe, one has the impression of looking at it "wrong side up". This is, of course, merely an image. But it reflects rather well the different positions of Europe and Asia in regard to their common civilization. From the material point of view, at least, one seems to be the "reverse side" of the other; one has always been the winner, the other the loser, as if in a given enterprise (begun, as we have said, jointly) one had secured all the advantages and the other all the embarrassments.

In one case (though will it always be so?) an expansion of population has paved the way for agricultural and industrial progress, so that resources have increased more quickly than the number of people consuming them; in the other, the same phenomenon has, since the beginning of the eighteenth century, assumed the form of a constant lowering of the amount taken by each individual from a common pool that has remained more or less stationary.

It is to the birth and development of urban life that Europe has come to attach its highest material and spiritual values. But the incredibly rapid rate of urban development in the East (e.g. in Calcutta, where the population has increased from 2 to 5 ½ million in the space of a few years), has merely had the effect of concentrating, in the poverty-stricken areas, such misery and tragedy as have never made their appearance in Europe except as a counterpart to advances in other directions. For urban life in the East means nothing but promiscuity, the most elementary lack of hygiene and comfort, epidemics, undernourishment, insecurity, and physical and moral corruption resulting from over-concentrated, collective existence. Everything that, in the West, seems merely to be a pathological accident attending, for the time being, a normal process of growth is, one might say, a normal state of things in the East, which plays the same game but is condemned to hold all the worst cards.

Yet, without going back four or five thousand years, this striking misfortune seems to have been neither inescapable nor of very ancient standing. As recently as the seventeenth and eighteenth centuries — thanks no doubt, very largely, to the Mogul emperors, who were admirable administrators — the population of South Asia was not over-numerous, and there was an abundance of agricultural and manufactured products. European travellers who saw bazaars extending from 15 to 20 miles into the country (as, for instance, from Agra to Fatipur Sikhri) and selling goods at what seemed to them ridiculously cheap prices, were not sure whether or not they had arrived in the "land of milk and honey". It can never be stated often enough that it was Europe which, by forcibly incorporating the still primitive Asia in a world economic system that was solely concerned to exploit raw materials, manpower and the possibility of new markets, brought about (involuntarily no doubt, and no less through the benefits than through the abuses of the process) a crisis which, today, it is its duty to remedy.

Comparing itself with America, Europe acknowledges its own less favourable position as regards natural wealth, population pressure, individual output and the average level of consumption; rightly or wrongly, on the other hand, it takes pride in the greater attention it pays to spiritual values. It must be admitted, *mutatis mutandis*, that Asia could reason similarly in regard to Europe, whose modest prosperity represents, for her, the most unwarranted luxury. In a sense, Europe is Asia's "America." And this Asia, with less riches and more population, lacking the necessary capital and technicians for its industrialization, and seeing its soil and its livestock deteriorating daily while its population increases at an unprecedented rate, is constantly inclined to remind Europe of the two continents' common origin and of their unequal situation in regard to their exploitation of a common heritage.

Europe must reconcile herself to the fact that Asia has the same material and moral claims upon her that Europe often asserts she herself has upon the United States. If Europe considers she has rights *vis-à-vis* the New World whose civilization comes from hers, she should never forget that those rights can only be based on historical and moral foundations which create for her, in return, very heavy duties towards a world from which she herself was born.

Inseparable worlds

THE West however need not fear that, in this settling of accounts with the East, the latter alone will be the receiver. Preoccupied as it has been, and for too long, with the economic aspect of the relations between the two worlds, the West has possibly overlooked a number of lessons it can learn from Asia, and which it is not too late to ask for now. Despite the interest evinced by scholars and the remarkable work accomplished by Orientalists in the nineteenth and twentieth centuries, the mind of the West has not, as a whole, been very open to the messages of Asiatic thought; it seemed difficult to comprehend when attempts were made to introduce it to groups of peoples who lacked the basic experience underlying it.

All Western civilization has tended to separate corporeal from spiritual activities as completely as possible, or rather to treat them as two uncommunicating worlds. This is reflected in its philosophical, moral and religious ideas, and in the forms taken by its techniques and everyday life. Only recently, with the development of psychiatry, psychoanalysis and psycho-somatic medicine, has the West really begun to grasp the inseparability of the two worlds. This key, which is new to it and which it handles so clumsily, Asia has long known how to use — for purposes, it is true, which are not exactly the same. For the West, which for three centuries has concentrated mainly on developing mechanical processes, has forgotten (or rather has never tried to develop) those processes of the body which can produce in that instrument — the only natural and also the most universal one at man's disposal — effects whose diversity and accuracy are generally unknown.

This rediscovery of man's body, in which Asia could be a guide to humanity, would also be a rediscovery of his mind, since it would (as in yoga and other similar systems) bring to light a network of actions and symbols, mental experiments and physical process which, unless they were known, would probably prevent the psychological and philosophical thought of the East from being, for the West, anything more than a series of empty formulae.

Peaceful co-existence

THIS keen feeling, found in Asia, of the *interdependence* of aspects of life which elsewhere one tried to isolate and close off from each other, of the *compatibility* of values sometimes considered to be incompatible, is also found in the sphere of political and social thought. The first illustration of this is in the field of religion. From Buddhism to Islam, proceeding by way of the various forms of Hinduism, the religions of South Asia have shown that they were supreme in the art of living together, comprehendingly, with other very different forms of belief. In East Bengal, not far from the frontier of Burma, we have seen, side by side, mosques bereft of images, Hindu temples with families of idols each of which enshrined a god, and Buddhist pagodas filled with images (simple objects for contemplation) of a single sage, superior to gods and men. These irreconcilable yet at the same time definitely complementary forms of human faith could coexist peaceably, to such an extent that Moslem authorities supervised markets where the only meat displayed was pork (the staple food of the Mongol peasants in the hinterland of Chittagong), and young Buddhists, under the amused eyes of their bonzes, helped enthusiastically to drag the goddess Kali's chariot to the river, on the occasion of the annual Hindu festival.

It would be easy to set against this idyllic picture the burnings and massacres that marked the separation of Pakistan from India. But in the case of these universal after-effects of nationalist poison, is it not the West that bears the primary responsibility? The only attempts South Asia made in the way of political unification — before Europe compelled it to think in European terms — developed in quite a different atmosphere. From the time of Asoka — of whom the Director-General of Unesco, in his speech to the Indian National Commission, said that he "attained to the concept of a universal comity seeking the good of all created things" — to that of Gandhi, the ideal always sought was that of peaceful brotherhood. This ideal is particularly evident in the political and aesthetic achievements of the Emperor Akbar, whose ruined palaces — a combination of the Persian, Hindu and even European styles side by side — affirm the will, and the possibility, that different races, beliefs and civilizations should live together in harmony.

The article published above is an extract from the one which appeared in the Winter 1951 *issue of the* International Social Science Bulletin, *devoted to "Documents on South Asia" (Volume III, N° 4—published by Unesco. Price is* $ 0.45 ; 2/6 ; 120 *frs.)*

25,000 MILES THROUGH SOUTH EAST ASIA

(2)

A Report by Ritchie Calder

U.N. Photographs by Eric Schwab

Summoned by the temple bell, the village children line up for a periodic medical examination.

BUDDHIST PRIESTS AND MODERN SCIENCE WORK A 'MIRACLE' IN THE HUMMING SWAMP

An inspiring saga is unfolding in South-East Asia—the story of man's struggle against poverty, disease and ignorance, a hard but slowly advancing struggle in which the United Nations and its specialized agencies are joining with governments and the people. Recently a joint UN and specialized agencies mission led by Ritchie Calder completed a 25,000 mile expedition to record in words and pictures something of this struggle. Last month the COURIER began publication of Ritchie Calder's report on Sarawak and Indonesia. This month we follow him into Thailand where the people are improving their health and living standards with the help and technical advice offered by of the international organizations.

CHIENGMAI Northern Thailand.

THE malaria team sprayed with DDT the priceless mosaics on the walls of the temple of Phra Norn Nong Pung which means — "The Reclining Buddha of the Humming Swamp."

Priests in their saffron coloured togas, their heads and eyebrows close-shaven, stood by in silent approval. Above them glowed the golden smile of the recumbent Buddha, 65 feet long and sheathed from head to foot in gold-leaf, an image so big that they had had to build the temple round it.

Today the Humming Swamp does not hum so much.

When we went out with Dr. Bhatia, the Indian entomologist from the World Health Organization and his team of mosquito hunters we dipped in vain into the water-grasses of the irrigation streams. In a day's search it was impossible to find a single *anopheles minimus*, the midget mosquito which has kept Northern Thailand malaria-ridden for generations. And we could have searched in vain through the whole of Serapei, the district which, three years ago WHO, in conjunction with the Thai Government and UNICEF, chose as a demonstration area for malaria-control.

Notice that it was malaria control, an attempt to reduce malaria to proportions in which it was no longer a public health problem and a crippling disease for a whole population. The project was not so ambitious as to expect eradication. But today there are no new cases of malaria and no malaria-bearing mosquitoes in Serapei.

At the temple of the Reclining Buddha we set up a clinic on the steps of the pagoda. This was nothing unusual. It had been held regularly there throughout the whole project. In the verandas, or cloisters of the temple were the desks and blackboards, the lay-teachers and the chanting children of the village school — another feature of Thai Buddhism which gives houseroom to compulsory civil education.

When Dr. Udom, the Thai doctor, had borrowed an altar table as his clinic couch, the bell was rung and the children came tumbling in a hilarious romp up the temple steps, lined up, put their little straw hats at their feet and waited their turn.

Dr. Udom pressed their little stomachs to find the tell-tale swelling of the spleen which, in malaria sufferers, bulges with the overwork which the disease imposes on it.

Always it was the same : children who three years ago would have been pot-bellied with malaria were found normal and to Dr. Udom's questions they replied : No, they had no fever. Nor their brothers, nor their sisters, nor their parents. The shaking disease had left their homes.

Looking on were the boy-priests, no bigger than the primary schoolchildren, their shaven eyebrows giving them a look of continuous surprise.

And surprised they might be, because here was a modern miracle — a miracle for which the Buddhist priests can rightly claim a large share of the credit.

The Miracle of the Humming Swamp is a lesson for the whole world. Modern science has played its indispensible part, but equally indispensible was the co-operation of the Buddhist priests who, throughout the whole area, instructed the faithful to work with the WHO international experts, with the Government authorities and with the diligent Thai doctors.

So far on this expedition, we have seen how primitive fears and superstition as in the jungles of Borneo have to be overcome before modern life-saving practices can play their part. We have seen too how the tenets of advanced religions can deny women safe childbirth. But here in Northern Thailand, Buddhism was the doctors' closest ally.

I have a great respect for Dr. G. Sambasivan, the Indian maloriologist who headed the WHO mission, both as a medical expert and as a diplomat, handling with real understanding the local susceptibilities. But I also have a great respect for the Chief Abbot of the North, Chawkun Tepmunee, who received me in the great Temple of the Golden Buddha.

When I thanked him for the example he had given by instructing the priesthood to co-operate with WHO which supplied the experts and UNICEF which supplied the DDT and the equipment, he demurred.

Why, he said, should he or the priests be thanked for obeying the injunctions of the Lord Buddha and working for the living wellbeing of the people. Science and religion were as one when they strove for the good life.

This was reiterated by the Governor of Chiengmai who, like his predecessor who launched the project three years ago, has been the friend and active helper of the international team. He was proud that in his province there had been this project which had benefitted his people and which in a few years would mean that all Thailand would be delivered from malaria, but which had also brought doctors from other countries for training. These doctors (with WHO fellowships) would apply in their own countries lessons learned at Chiengmai.

These lessons are illuminating.

In other parts of the world there have been spectacular victories over malaria. Even before DDT, malaria could be checked by laboriously seeking out the breeding places of the mosquitoes and either draining the swamp areas or treating them with oil.

Then there was the heart-warming examples of malaria control in Greece, and of Sardinia and Cyprus where both islands were entirely freed from malaria

(Continued on page 12.)

While a shaven-headed priest looks on, a member of a WHO anti-malaria team sprays DDT on priceless mosaics of the temple of Phra Norn Nong Pung — "Reclining Buddha of the Humming Swamp."

IN THREE YEARS THE 'SHAKING DISEASE' HAS VANISHED

(Continued from page 11.) by the destruction of the mosquitoes through spraying their breeding places with DDT.

But land-locked countries have not the advantages of islands and require a different strategy. In Sardinia and Cyprus it meant a frontal attack and mopping-up operations. In Thailand, it meant a pincer movement, cutting off the mosquitoes when they were on the offensive.

When Dr. Sambasivan arrived in the spring of 1949, he had to plan a campaign which would be economical in DDT and in manpower, because it had to be scaled to the resources which Thailand could afford in extending the lessons of the project to the whole country — financial, but also medical resources. Thailand is short of doctors.

First it was necessary to choose a workable area. He selected Chiengmai in Northern Thailand, in the hills behind which lies Burma. This was an endemic malaria area. That is, malaria was constantly present in 60 to 70 per cent of the population, not flaring up into sudden and deadly epidemics, but robbing the people of health and fitness and liable, like a sleeping volcano of disease, to erupt.

Second, they had to find the mosquito responsible for malaria in this part of the world. There were 30 types of mosquito in the area, any one of which might be the villain.

They were lucky. The very first day, Dr. M.D. Bhatia, who had joined the mission from the Malarial Institute of India, and his assistants, found the spores of human malaria in the salivary gland of the 13th mosquito they examined—the anophiles minimus.

Third, they had to study its habits. They found that, unlike certain other mosquitoes which favour stagnant water, it bred only in running, fresh water. This was lucky because the experts could define its area of operations. It belonged chiefly to irrigation channels fast fed from the hills and could not survive in the sluggish canals of the lowlands.

Fourth, they had to find its bases for attack on humans. They systematically examined the peasant huts—built on stilts, with plaited mat walls and thatched with attap, a broad, brown leaf, tobacco like. After studying the habits of 15,000 specimens, they satisfied themselves that it rarely rested higher than 8 feet from the floor — an economy when it came to spraying — that it lurked in the walls and in hanging clothes, and that it was mainly active between 9 in the evening and 4 in the morning.

They decided to attack its "airstrips" — the walls and hangings of the houses. The homes of 40,000 people were involved but, with the help of the priests and the village headmen they set about it systematically. All over the area one sees huts with letters and numbers and dates painted on them "A/16 DDT 21/4/50," meaning the village, the number of the house and the date of the first spraying. So thoroughly was this done that the DDT sign is now the postal address of the householders.

At the end of the first year, the Thai members of the team led by Dr. Udom and Dr. Vimol were entirely capable of handling the scheme and the international members retreated to the role of advisers. This tactful move strengthened rather than lessened their authority.

All this time UNICEF had been providing the DDT sprayers and vehicles for the pilot project, matched in cost by the Government's provision of staff.

They extended the Serapei project to five times as many people, 200,000, and at the same time trained and advised the personnel which the Thai Government installed and financed in the adjoining area of Hangdong. This scheme was also so successful that it was extended five times.

Yet another scheme was started in Central Thailand, covering a population of 50,000. In this case half the cost of the materials was born by WHO directly.

The pilot projects also provided training facilities for the American and Thai staffs who were to work the ECA schemes in conjunction with the Thai Government. This provision of direct American aid has taken the place of the WHO/UNICEF contributions and, following through the plans prepared by the WHO experts, aims to clear Thailand of malaria within 3 years. Thus the protection already given to 600,000 people will be extended to another 4 million.

By killing the mosquito with the lingering poison of DDT, the Chiengmai methods broke the cycle of malaria. And they killed off the species. In a search of 5,000 man-hours not an "a-minimus" has been found. The disease faded out. And for a cost of 14 cents a head, compared with 6 dollars a head in Sardinia.

This parable of health began with The Kathin and it ended with The Kathin.

The Kathin is the festival which goes on for weeks in celebration of the end of the Buddhist Lent and the beginning of the Buddhist Spring. With the last of the monsoon, the thousands of young Thais who have entered the monasteries for a term of spiritual service — and practically every Thai does — emerge and exchange their humble yellow robes for civilian garb. The permanent priests receive from the faithful their new robes. And everyone makes merry.

It was at the Kathin that the Chief Abbot had first enjoined the people to co-operate with WHO and when we reminded the Governor of Chiengmai, Udom Bunyaprasop, of this he immediately said we must join in the Kathin. He ordered a procession complete with the Corps of Court Dancers and the Busabok, the triumphal car which the people drag with ropes through the streets.

The beautiful dancers of the Court, with their vivid robes and flowered head-dresses and their goldern fingernails, six inches long, danced barefoot in the streets. Every turn of the foot, every gyration of the body, every movement of the hand is the exquisite dumb-alphabet of age-old legend.

And the procession moved through Chiengmai to Wat Suan Dawk the principle temple.

Only once a year does the Golden Buddha, the most precious image in all North Thailand, emerge from the dim recesses of his temple. For this occasion, the Chief Abbot gave a special dispensation with priestly rites, the golden image was carried down the temple steps and enthroned on the lawn before the pagoda. People prostrated themselves before it. The Dancers danced before it.

Tradition and modern science met in common thanksgiving.

A CASE OF

Lampang, Thailand.

DIGNITY made way for Impudence. Boon Tam, the giant tusker, stood aside and let TooToo, the tawny terrier take the lead.

And for the very good reason that the elephant feared the King Cobra, and TooToo, our snake-dog, did not. He went jauntily into the bamboo undergrowth. Chan, the forester, released the safety-catch of his colt revolver. Boon Tam, forced by the goad of his mahout, warily pushed his, and our way through the jungle.

One would have thought that TooToo took a delight in teasing his mountainous friend. He would scurry on ahead and stop dead. So would Boon Tam. He would sniff at a dangling vine. The elephant would give it a wide berth. The terrier would get excited over the spoor of a wild pig and go haring off leaving the elephant "unprotected".

Once he himself was taken aback. Across our path wriggled something black and apparently furry. TooToo sniffed and sprang back dismayed. The reptile was a giant earthworm about ten inches long, very much alive but being carried shoulder high by a swarm of ants, like the Lilliputians manhandling Gulliver. The captive would wriggle desperately and the swarm of ants would sway but hang on.

Meanwhile, I had troubles of my own. I don't ask anyone to believe it — but I had absentmindedly trekked into the jungle in my house-slippers and in the squelch I could feel things real and imaginary slithering in and out. I was more worried about hookworm and leeches than about King Cobras. So we went deeper and deeper into the jungle of the teak forest — TooToo, Boon Tam, Chan, the officer of the Royal Thai Forests, the teak-fellers with their saws and axes, and the jungle farmers and their women folk with their curved, razor-edged kris. And Nai Khan Chaiyen — "Little Mister Pitcher-Who-Never-Gets-Excited" an appropriate name for a jungle twelve-year-old, who fetches and carries water. Jungle clearing is thirsty work, and running errands to a jungle waterhole needs a bit of nerve.

The jungle excursion may seem remote from our mission, but, believe me, Chan Watanasuvakul, Bachelor of Science (Forestry) and his fellow-conservators are as much "Men Against Disease" as Dr. X and Professor Y.

The reason why the UN Food and Agricultural Organization ranks forestry and forest management high in its technical aid programme in South East Asia, is not just the commercial value of timber or indeed, helping to house the world's people, but because the food of Thailand may depend on what happens to the forests.

"Some undeveloped countries are actually poor but potentially rich while Thailand is actually rich but potentially poor", said an FAO nutrition expert. "It has a rich and fertile soil. It has, second only to rice, the wealthy export of teak. But its population is beginning to rise steeply. In another generation it may be short of food instead of exporting it."

They will have to increase, not lose, productive acres. Crops depend on the control of the floods. Here as elsewhere in South East Asia most of the population is to be found on the banks of the rivers and the alluvial plains. But the rivers which supply the irrigation for the rice fields also drown crops, the stocks and the people, leading to hunger and to disease.

And soil conservationists look at Thailand's rivers after a tropical downpour with the concern of doctors confronted by a haemorrhage.

The rivers rise several feet an hour and swirl past, the colour of liquid teak, heavy with eroded soil scoured off hills where forests once checked the run-off.

The get-rich-quick teak cutting of the past has already diminished the average size of teak trees to about half. Peasant methods of cultivating the jungle by clearing the trees and setting fire to what remains so as to get the ash, and then moving on somewhere else, have exposed soil to the sun and to the hose-pipe violence of tropical storms.

Now most of the forests are Royal preserves. Concessions are lapsing and leases reverting to the Crown and cutting is under supervision. Not that cutting is a bad thing. Indeed selective cutting can improve the forest. Nor is jungle farming a bad thing — provided that it is done the right way.

Thailand is fully alive to this and has called in international forestry experts through FAO to add experience elsewhere in the world to the

F CUTTING THE TEAK TREE'S 'THROAT'

local experience of their own trained foresters. These foresters also can have the opportunity through FAO fellowships to go and study practices elsewhere.

FAO has brought in four experts, to advise on Forest Management, Reafforestation, Mechanisation and Sawmilling. And we went into the jungle to find out what is meant by "Forest Management".

Deep in the forest where the sunshine filtered green through a screen of foliage, Chan chose his tree.

The lumbermen with slashing axes, cut a "girdle" — a deep gash round the trunk about 2 feet from the ground. He cut through the combium through which passes the food vessels from the roots and the leaves. In fact, it was a case of cutting the teak-tree's "Throat". But it will take two years to die-off and dry-off so that when it is felled the log will be light enough to float for anything from two to six years down-river to Bangkok.

Beyond this he sanctioned a clearing with no teak or other valuable wood, but other timber for the peasants to fell and the Government to sell, and with a bamboo undergrowth to fire to provide the ash.

The men got to work with their axes and in a matter of minutes trees were crashing. The women with their knives cleared the undergrowth and lopped branches. With all their energy and speed it would take them weeks to clear the two acres.

Then with long spiked sticks they would make holes for the rice-seed and would plant their cotton, their water-melons, their peppers and their vegetables. And on the same ground they would plant teak trees under the supervision of the foresters.

This is the hard way to win rice, because the ground they clear is theirs only for a year. By then the teak would have asserted itself and become a plantation and they would have to repeat the process.

But "shifting cultivation" of this kind has been their traditional way. The difference now is that it is a healthy instead of a destructive process, supplying them with their vital rice, cotton which they make into their clothes and with a varied vegetable diet. But instead of the scorched earth policy of abandoning the land when its rice-fertility is exhausted and leaving it to the off-scourings of the rains, they leave a plantation of 800 teak saplings an acre, which will be thinned to 80.

In ten years time, these trees will be useable as timber and in a hundred and seventy nine years it will be as valuable as the one we saw felled in a nearby logging operation.

This veteran had been girdled and forest-seasoned for two years when Chan ordered it to come down. With axes and saws, (with "Little Mister Pitcher-Who-Never-Gets-Excited" pulling like a grown-up) they brought down the giant in half an hour. They then sawed off the upper reaches leaving a log three cubic metres in size.

Its value on the jungle site is about 2400 ticals, or 120 dollars, or £45. When it floats into Bangkok, in three years time, it will be worth twice as much and when it reaches the cabinet-makers in Europe or America it will be worth at least four times as much.

That is why it pays teak-robbers to steal the logs out of the river on their long journey, take it to saw-pits in the jungle and slice it, by hand, into planks for smuggling to markets.

With a deft axe, the huge log was shaped, given a sharp nose like the bow of a ship and notched for the fixing of chains. Boon Tam then rolled it into position with his tusks and prepared for the long haul.

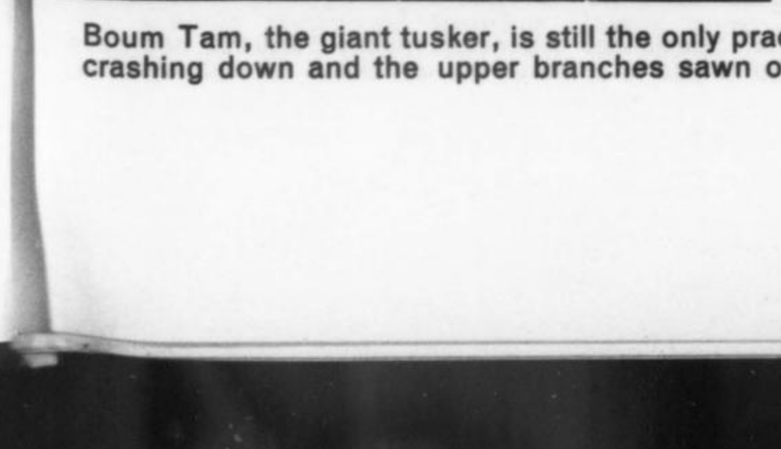
When he strained on the chain it would not budge He bellowed with fury as TooToo barked and the lumberman shouted and the mahout goaded him. Then with his hind foot, he pushed it clear of the root obstruction and went crashing through the jungle — a living bulldozer.

At one point he struck a rock. He cried with exasperation and tears ran down his cheeks. Then, his brain — which is an intelligent one — came to the rescue of his muscles. He turned and tusked it past the obstacle. Then, he had to drag it through a mat-hut jungle village. It looked as though at any moment he would sweep away the frail huts but always he edged and twisted it past, like a boatman steering between rocks.

As Chan said, you can mechanize the sawmills, install stacking machines and road-haulage trucks, but in the jungle itself, the elephant is the only practical machine.

With foresight and fair-warning, with their own able foresters and the added experience which FAO can bring from other parts of the world, the Thais can repair past havoc and avoid the disasters which ruthless forest destruction has caused to agriculture elsewhere in the world.

And so, strange as it may seem, the teak forests of Thailand can help to feed the future millions and preserve the health of the people.



Boum Tam, the giant tusker, is still the only practical machine for these teak foresters in the jungles of Thailand. After the tree has been brought crashing down and the upper branches sawn off, an elephant rolls the log into position and then hauls it away through the jungle undergrowth

HOPES AND BITTERNESS OF THE ARAB REFUGEES

by Willem VAN VLIET

It is three years since I first saw Mr. Fattah Nounih in an Arab refugee camp not far from Jericho. He is still at his refugee school in El Karameh but in these three years great changes have taken place there.

When I saw Mr. Nounih for the first time in his black coat and striped trousers he looked as impressive as any schoolmaster could hope to be. But somehow his rather solemn behaviour and appearence did not fit in with his surroundings, and least of all with what he proudly called "my school."

His school was the burning sand of the Jordan valley on which hundreds of Arab refugee children were sitting in groups of between 40 and 50, some chanting verses from the Koran, some counting, others listening, and a few even tracing English irregular verbs in the sand. There were no books and not even a blackboard; there was just sand and the deafening noise of children reciting in chorus at the tops of their voices.

Despite the noise, the heat and the absence of even the most elementary items of school equipment, Mr. Fattah Nounih escorted me as proudly as any headmaster might have done, from class to class, and finally to his office — an old army tent — where I explained that I had been sent by Unesco to find out what it could do to help him and other refugee teachers.

We made lists : so many blackboards, so many pencils, notebooks, textbooks, maps, and then, after reflecting a moment, this desert schoolmaster suddenly added : "And I should like a schoolbell, please." I thought at first he was joking—a schoolbell in the wilderness.

Today, three years later, he receives visitors in a neat little office in which chairs have replaced the boxes on which we once sat. His 600 students still recite from the Koran, but the older ones learn history, geography and English. Each of the 20 groups has its own classroom built of white-washed mud bricks, complete with blackboards, chalk, pencils and plenty of other equipment. And the headmaster now has his bell to summon the children to classes.

But all these changes have not been brought about simply by financial help from Unesco. The school walls were built by the headmaster, his pupils and some of their elder brothers. The chairs and benches were made in an apprentice workshop attached to the school, as also were 81 pairs of shoes which Mr. Nounih keeps in reserve.

The schoolbell was a gift from the Unesco Youth Club in Amsterdam, Holland. A shipment of notebooks came from Norway, blackboards arrived from South Africa. The Calder High School for Girls in Liverpool, England, made a collection and sent a cheque for £ 12.9.10. From Antwerp, Belgium, three 16 m.m. film projectors were shipped to the Middle East.

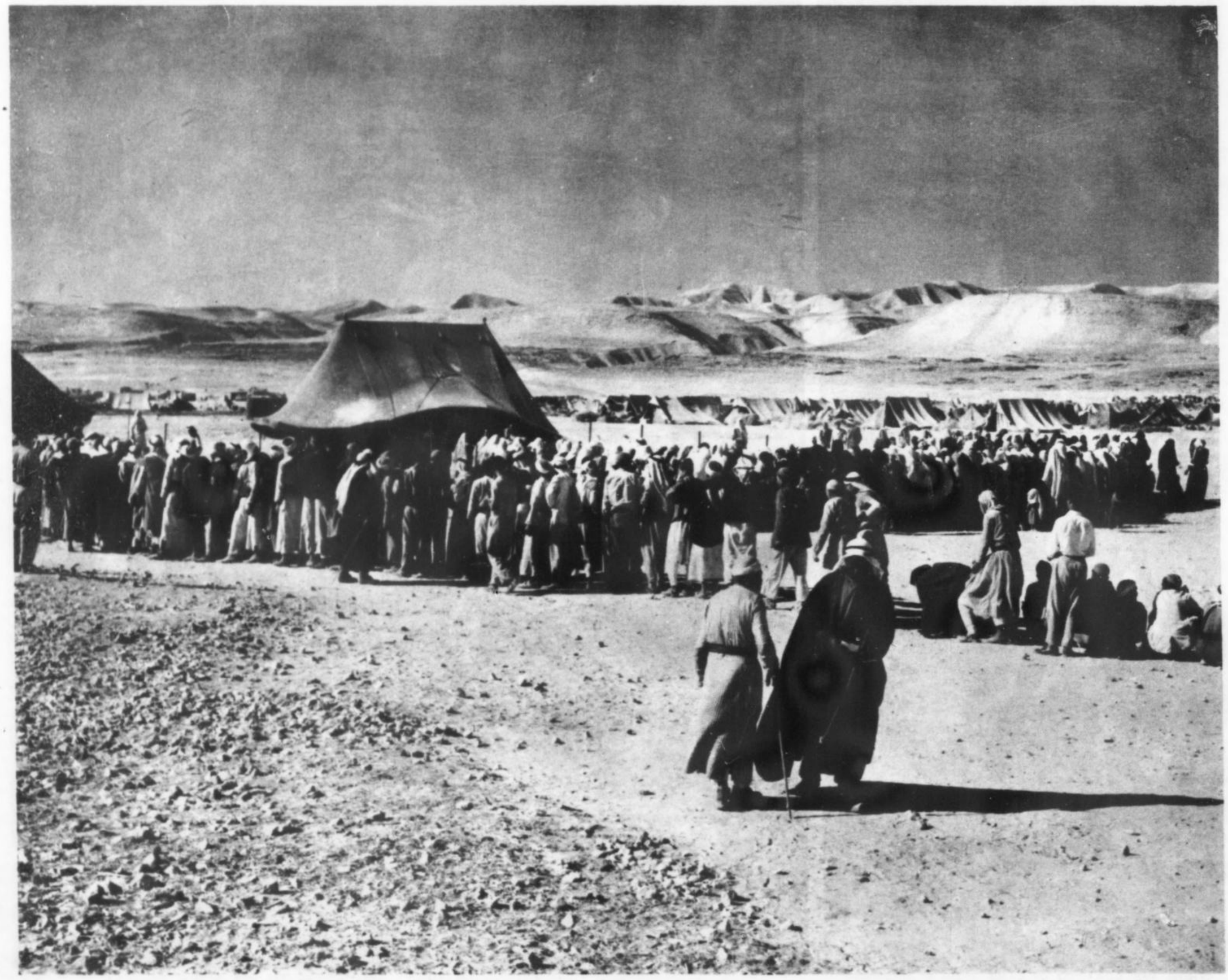
With such gifts, an endless list of individuals, clubs, schools and organizations in all parts of the world have taken voluntary action to help Mr. Fattah Nounih and his 890 colleagues to keep open the schools for Arab refugee children in the Middle East.

The combined efforts of the U.N. Relief and Works Agency (UNRWA) and some of the Specialized Agencies (Unicef, WHO, Unesco) have served a great humanitarian purpose. Nearly 1,000,000 refugees who possess no means of existence whatever, were kept from starvation, protected against diseases and provided with the equipment to continue the education of their children. The Palestinian refugees are grateful for these efforts. But what is their actual position? Mr. John B. Blandford, Director of UNRWA, described it earlier this year to the United Nations Assembly in Paris :

"Today, almost a million refugees look back upon more than three years of homelessness. Approximately one-half of them are children of 15 years and less; there are more than thirty thousand births a year. One-third of the refugees live in organized camps or tents, mud huts and barracks. The remainder are scattered through villages and towns in temporary rooms, old public buildings and caves. Eight hundred and seventy-five thousand live on rations which provide a daily average of 1600 calories per person. For clothing they are principally dependent on the generosity of private agencies. A small number of the wage earners find employment, but in so doing are often competitive with natives of the country in which they work. Declining personal resources of the refugees has caused a steady drift from private rooms to public tents and huts. The problem daily grows in size and intensity.

There can be no stability or security in this mass dislocation and temporary way of life. A recent storm of nine days duration destroyed six thousand tents, ravaged 3,000 mud huts and momentarily unsheltered almost one hundred thousand refugees. More tragic is the steady weakening of the defences of family and religious life—the steady deterioration of morale."

To provide a solution for this great humanitarian problem and enable the refugees "to move out of a valley of despair and up a road of hope", as Dr. Blandford put it, the Director-General of UNRWA proposed, and the UN General Assembly approved a $ 250,000,000 programme to help refugees obtain adequate housing and employment; permit them to move from camps to suburban housing projects and rural villages; and help them to become not



Through the combined efforts of the U.N. Relief and Works Agency (UNRWA) and some of the U.N. Specialized Agencies, nearly 1,000,000 homeless refugees, with no means of existence whatever, have been kept from starvation, protected against disease and helped to continue the education of their children.

THREE YEARS OF HOMELESSNESS

Some facets of Arab refugee life are expressed in these few photos. For the aged who have exchanged a settled family existence for a temporary way of living in tents, mud houses or huts, life has indeed become bitter. For the young, sports and studies... and youth itself... help keep alive the spirit of hope. For the few wage earners who, like this former forester now working in a re-afforestation nursery, have found employment, life has begun again.

only self-supporting but ultimately economic assets of the Near East countries.

Meanwhile, the refugees' general attitude is one of both bitterness and gratitude. Bitterness, because of the continued existence of drab camp life and the desire of many to return to their former homes. Gratitude, because they are aware of the goodwill of people from all over the world.

Unesco was among the first to invite the whole world to help to keep the Arab refugee schools in action. Declaring that "these children cannot be brought up on bread alone", Unesco appealed for money to buy books, classroom supplies and teaching materials. As fast as grants and gifts allowed, Unesco opened more schools in the Middle East Camps. When, in 1950, the United Nations decided to convert its emergency aid unit into the United Nations Relief and Works Agency the entire basis of the education provided for the children changed from a primarily social measure to prevent the delinquency which follows idleness, poverty and cramped living conditions. It became an education aimed at preparing the children for the task of earning a living and contributing to the material and spiritual well-being of the country in which they were to live.

The number of schools has steadily grown. Today, Unesco and UNRWA are operating 119 schools such as the one at El Karameh, for nearly 51,000 boys and girls, scattered all over the Middle East, in the Lebanon, Syria, Jordan, and the Gaza area as compared with the 64 schools which provided elementary education for about 33,000 children in 1949.

Last year, a new vista opened up for a few thousand of the young refugees. In some of the schools vocational training classes were opened up on a small scale, to supplement ordinary classroom education with basic training for a livelihood.

In these makeshift shops, girls learn dress-making, knitting, embroidery, and home economics. Education for girls is in itself a new development, for before they became refugees, a good many Arab girls never went to school. In their home villages mothers would teach their daughters everything that was thought proper for a girl to know : housekeeping, needlework, the care of babies. In the refugee camps, however, home life lost much of its traditional form. More and more girls are now being allowed to attend school along with their brothers. Although boys outnumber girls three to one in the schools, still, for the first time, thousands of young Arab women are growing up with a knowledge of reading, writing, arithmetic, geography, history and other school subjects.

Vocational training for boys includes tin-smithing, carpentry, shoe-making, black-smithing and book-binding—all specialized skills calling for special implements. The things they make are immediately useful. At the school of El Karameh, run by Mr. Fattah Nounih, for example, fifty boys are learning how to make shoes. They are not elegant by Western standards, the soles being made from old tyres, and the uppers from disused canvas, but the product is serviceable and saleable to low income groups in Jordan.

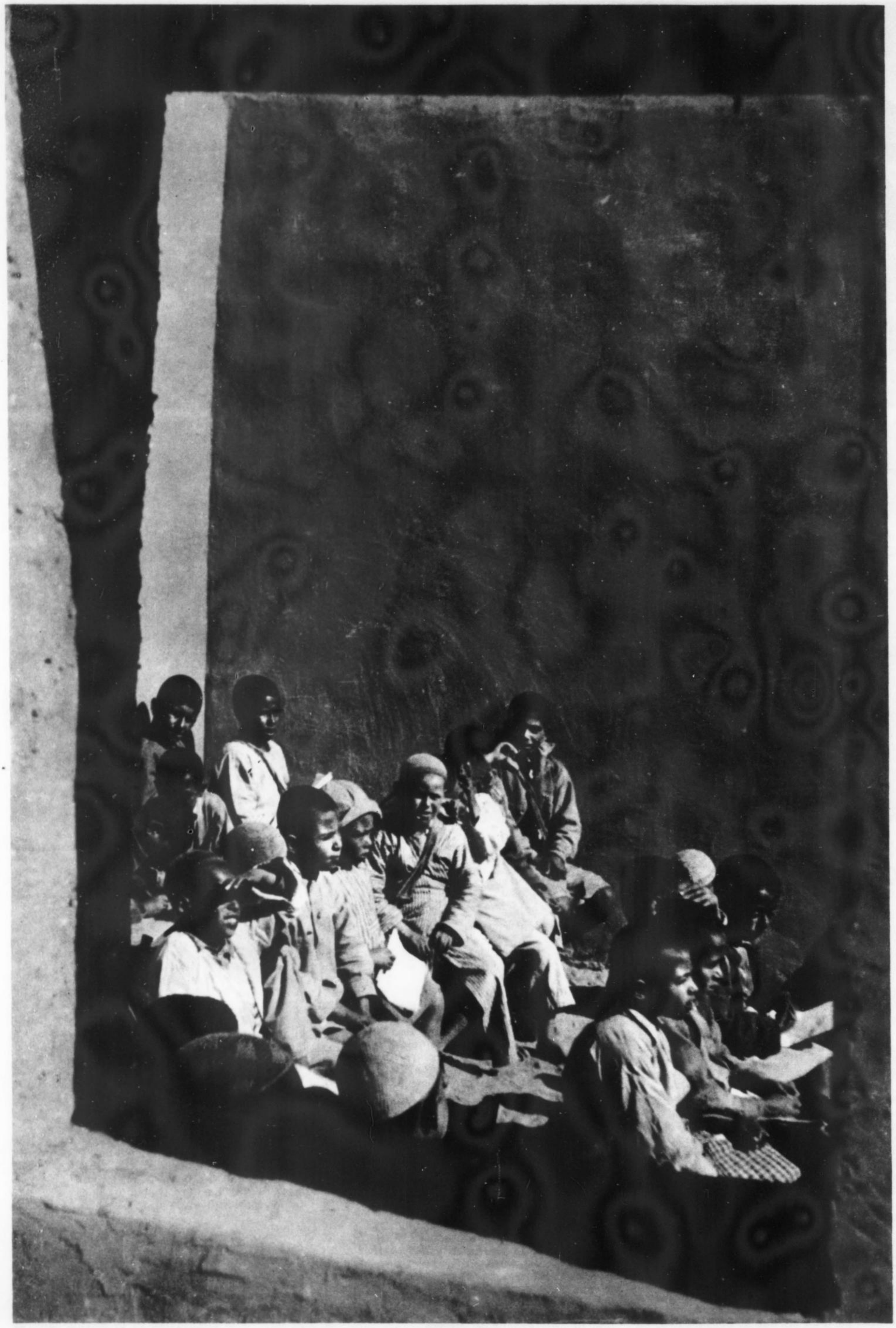
Close to the El Karameh refugee camp some 250 boys of the school are learning how to till the land, how to plant and tend crops and vegetables. Their production is used for the supplementary feeding programme which gives the schoolchildren part of their daily hot meal. A less immediate but important result is that these boys are getting agricultural training through the United Nations which they would formerly have obtained on the land owned by their fathers or their father's employers. They are now being taught about soil erosion, tree planting and irrigation in preparation for the time when they will be earning a living as farmers, fruit growers and market-gardeners.

These are some of the positive results that have been achieved. But there are many problems to be solved, many needs to be satisfied. More teachers are required, but teachers must be paid. School equipment is lacking, but this must come from abroad. Shortage of tools is preventing the opening of more vocational training centres.

Individual needs are modest, but multiplied by the total number of refugee children, the overall demands are tremendous. As a result, the educational efforts of the United Nations to tackle the problem of re-integrating youth have so far been restricted by lack of funds to a comparatively small number of beneficiaries.

Even the maintenance of existing facilities, difficult enough in itself, is not going to meet the problem. There are still some 130,000 refugee children in the 6 to 14 age group eager to go to school. Thousands of teen-agers are still getting no training. Forty thousand adults have learned to read—but now find themselves in the ronic circumstances of having nothing to read. Babies are still being born in their hundreds to swell the refugee problem.

The progressive social planning that has been initiated in the schools for Middle East refugee children must be continued and developed. The children must be taught and trained to become productive citizens and not left, illiterate and ignorant, to add to the troubles of the Middle East.



SCHOOLS FOR ARAB REFUGEE CHILDREN

Three years ago emergency schools for Arab refugee children were set up with tents as schoolrooms, rocks as benches and the desert sands as 'blackboards'. Since then refugee teachers and children, using mud bricks, built class rooms which have been equipped thanks to funds sent from many countries. Today Unesco-United Nations joint schools are educating 50,000 boys and girls, but another 130,000 children out of a total of nearly 1,000,000 refugees are still without schools. The problem of educating all Arab refugee children is still unsolved. (See page 14.)